LTM-LCAM

LairdCam Helmet Camera System

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Helmet Camera System

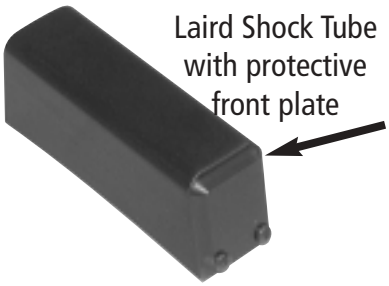
Description

Extreme ruggedized lightweight aircraft aluminum mount features highly stable helmet mounting system. The mount is indestructible and carries a lifetime warranty. No modifications to the helmet are required. System has been tested to speeds in excess of 180 MPH and beyond. Steel tube style color camera features choice of resolution and Sony precision CCD image pickup device. Mount also features built-in clear lens cover to protect from bugs, mud and other debris. Camera and helmet mount are water resistant.

Complete system includes all AV cables for easy hook-up to any video camera or recorder with AV inputs, miniature microphone with clip mount, compact rechargeable battery & charger supplied in a hard shell roto-molded carrying case with foam shock protection.

LairdCam works with any camcorder or recording device that has RCA audio & video inputs.

Includes Laird Shock Tube Extremely rugged & lightweight aircraft aluminum camera shock tube mounts on helmets, cars, vests etc. Fully positionable. Indestructable optical grade protective front plate.



Technical Support

The LTM-LCAM is designed for reliable operation. Should there be any technical assistance required, you may call our tech support line at 845-339-9555.

800-898-0759 • 845-339-9555 • 2000 Sterling Road • Mount Marion, NY 12456 • www.lairdtelemedia.com

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LAIRDCAM HELMET CAMERA SYSTEM ASSEMBLY INSTRUCTIONS

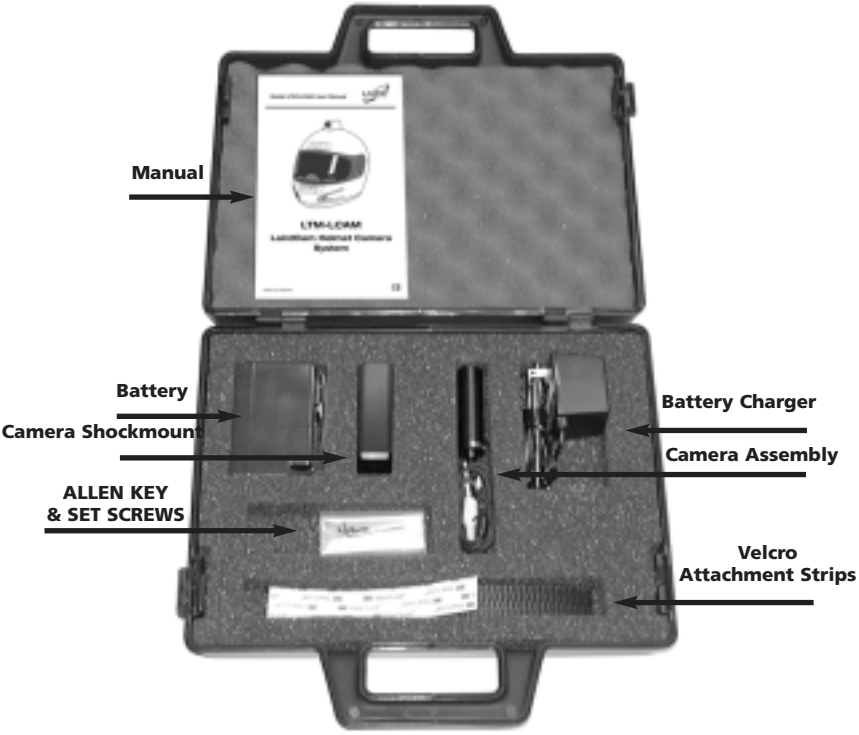
The **LAIRDCAM** ***Helmet Camera System*** is a complete ruggedized, mobile environment video acquisition system for use with all body worn camera recording systems. The system was designed to be reliable, rugged, flexible and easy to use in the field. Although very popular with mobile and motion sports users, the system can be adapted easily for any application where a small weatherproof, high tech miniature camera system is required.

The complete system comes with a 12Volt battery and AC charger, camera tube, choice of standard or high-resolution camera, snap-on Velcro, and a moisture proof carry case.

LAIRDCAM is simple to assemble and make ready. In just about 20 minutes you will be ready to use the system. If you have any questions regarding LAIRDCAM call tech support at: 845-339-9555

Assembly Procedures: Before beginning this process you must charge the battery. Simply plug the battery into the charger and let the battery charge for **4 hours**. You will need a fully charged battery to properly align and test the helmet camera location and operation.

1. Open the carry case and identify all the parts contained.



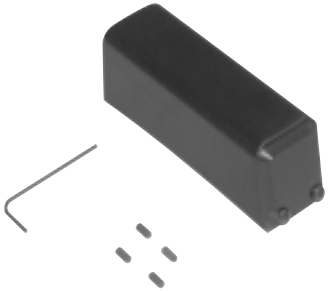
2. The camera has two mount systems. The Helmet CAM and the base mount. To use the Helmet system it is necessary to first mount the camera in the provided camera tube. Locate the camera tube.

a) Locate the assembly pack (small plastic bag) located front left of the carry pack.

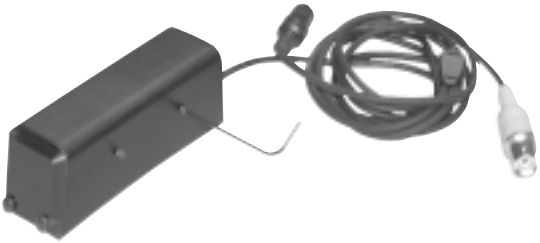
b) Notice the camera has a red dot locate on the rear of the camera. This dot indicates the Top Dead Center of the camera. Insert the camera into the tube with the lens of the camera facing the protective Plexiglas on the tube.

3. Insert the camera all the way until it stops (do not force).

4. Locate the 2 set screws provided in the plastic bag.



5. Insert set screws into the two holes on the camera tube.



6. Align the camera red dot to the 12 O'clock position of the tube: do this on a flat surface.

7. Tighten (do not over tighten) the setscrews to hold the camera in place.

8. Locate the helmet mounting location by determining the required angle of view required. Top locations must be positioned back a bit to allow for the right angle once the helmet is worn. It would be a good idea to experiment with an associate to determine the right location for the camera.

9. Once the camera location has been determined, cut and apply the strip of sure-lock Velcro unto the curved base of the camera tube. This Velcro does not have a hook and loop side like standard Velcro. Cut another piece and squeeze it into place on top of the previous piece. **DO NOT REMOVE THE ADHESIVE PROTECTION YET.**

10. Carefully locate the camera on the helmet and allow of maximum contact to the curved area of the helmet and the camera tube. It would be a good idea to power the camera and connect it to a video monitor. Use the monitor to determine the proper location for your needs.

11. NOTE: If the camera is to be side mounted on the helmet, be certain that the red dot is always pointed to the 12 O'clock position. Failure to do this will result in a rotated alignment image.

12. Once the proper location has been found, remove the adhesive protection and press the camera tube onto the helmet. NOTE: The adhesive used for the Velcro is very strong. During the first 5 minutes of application, gently pealing it back and re-locating the position can remove it. However, it does cure after about an hour and then it becomes very difficult to remove the Velcro.

13. Dress the video and power cables down the back of the helmet and connect your recording device.

GENERAL NOTES:

1. Do not use any other battery charger than the unit provided with LAIRDCAM. The use of any other charging device may result in damage to the camera and voids all warrantees.

2. Never immerse the camera in water. The ruggedized camera tube is weatherproof against rain, water splashes and environmental moisture, but it should not be immersed in water or any liquid for any length of time.

3. The VECRO provided is very strong and care should be exercised when separating the two strips.

4. Do not use the battery provided to run any device except the camera. Separate power must be provided for any other device.

5. The Battery is a 12Volt, 800maH lead acid battery and is matched to the charger provided. Do not plug the battery into any charger than the one provided.

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Technical Specifications
Standard LAIRDCAM

IMAGE SENSOR	High Resolution 1/3" DSP Color CCD (Sony)
EFFECTIVE PIXELS	290,000
HORIZONTAL RESOLUTION	380 Lines
MIN. ILLUMINATION	0.2Lux at 2.0
SYNCHRONIZING SYSTEM	Internal Crystal
SCANNING SYSTEM	2:1 Interlaced
VIDEO OUTPUT	1.0V p-p Composite. 75 Ohms
S/N RATIO	More Than 50 dB (AGC Off)
BLC	Automatic
SHUTTER SPEED	NTSC 1/60~1/100.000 SEC
GAMMA CORRECTION	R=0.45 - 1.0
WHITE BALANCE	2800^{o} K ~ 8200^{o} K Auto
GAIN CONTROL	4 dB ~ 30 dB Auto
SMEAR EFFECT	0.005%
MTBF	80,000 Hrs.
POWER SOURCE	12V DC (Tolerance 8V ~ 15V)
OPERATING CURRENT	130 mA with Regulated Power Input
LENS STANDARD	3.6mm
OPERATING TEMPERATURE	14^{o}F ~ 122^{o}F (-10^{o}C ~ +50^{o}C)
HUMIDITY	Within 90% RH
OUTPUT TERMINAL	4' Cable with BNC Female Video
DIMENSIONS	21mm Diameter x 77mm L (Camera Element Only)
WEIGHT	Approx. 210g

High Resolution LAIRDCAM

IMAGE SENSOR	High Resolution 1/3" DSP Color CCD (Sony)
EFFECTIVE PIXELS	380,000
HORIZONTAL RESOLUTION	480 Lines
MIN. ILLUMINATION	0.1Lux at 2.0
SYNCHRONIZING SYSTEM	Internal Crystal
SCANNING SYSTEM	2:1 Interlaced
VIDEO OUTPUT	1.0V p-p Composite. 75 Ohms
S/N RATIO	More Than 50 dB (AGC Off)
BLC	Automatic
SHUTTER SPEED	NTSC 1/60~1/100.000 SEC
GAMMA CORRECTION	R=0.45
WHITE BALANCE	2100^{o} K ~ 8200^{o} K Auto
GAIN CONTROL	4 dB ~ 30 dB Auto
SMEAR EFFECT	0.005%
MTBF	80,000 Hrs.
POWER SOURCE	12V DC (Tolerance 8V ~ 15V)
OPERATING CURRENT	130 mA with Regulated Power Input
LENS STANDARD	3.6mm
OPERATING TEMPERATURE	14^{o}F ~ 122^{o}F (-10^{o}C ~ +50^{o}C)
HUMIDITY	Within 90% RH
OUTPUT TERMINAL	4' Cable with BNC Female Video
DIMENSIONS	21mm Diameter x 77mm L (Camera Element Only)
WEIGHT	Approx. 220g

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